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ABSTRACT

One hundred fifty-six gifted elementary students (grades 3 through 6) responded to the Coopersmith Self Esteem Inventory on a pre- and posttest basis during a 3 week, 45 hour College for Kids program, designed as an enrichment program with focus on critical thinking, problem solving, inquiry, research, and questioning. Thirty students responded to a problem solving index on the same basis. No significant change in self esteem was revealed, although significant improvement in fluency, flexibility, and originality was noted. It was concluded that the learning episode was not sufficient to alter so stable a trait as self esteem, especially in a dual focus program (cognitive and affective), but that fluency, flexibility, and originality are modifiable outcomes under certain conditions of enrichment programing for gifted students. (Author)

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College for Kids,
An Innovative Enrichment Program
for Gifted Elementary Children

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Few school districts have comprehensive K-12 programs for gifted students. As a result, much of what is done for the gifted is part-time, pull-out and episodic in nature. The impact of such efforts on the psycho-social well being and cognitive skills of gifted students is rarely assessed. This study looked at the effects of a three week, forty-five hour enrichment program on the self-esteem and the divergent thinking (fluency, flexibility and originality) of students in grades 3-6. To assess these characteristics, students were pre- and posttested on the Coopersmith Self-Esteem Inventory and a Problem-Solving Index.

College For Kids Program

During late June and early July of 1981, 250 gifted elementary students participated in a College For Kids program on the University of Wisconsin-Madison campus. The staff for the program included 81 university faculty members from 61 departments and 27 experienced teachers. Children were on campus from 9-12 noon, five days a week for three weeks.

The children were from the city of Madison and school districts in surrounding Dane County. Identified by individual schools for participation, children were selected on the basis of several indicators of high ability: learning characteristics such as time-on-task and motivation, test scores in reading and math, creativity scores, musical and artistic superiority and leadership skills. Children ranged in age from 8 to 12.

Program Goals

The program was designed as an enrichment experience and developed along the theoretical framework of Gallagher's (1979) suggestions for qualitatively

different enrichment programs for the gifted. Focus was on critical thinking, concept learning and the opportunity to deal with complex problems and abstract issues. Several specific program goals were identified:

1. to help students learn the skills of critical thinking, problem solving, inquiry, research and questioning. Emphasis was on divergent thinking processes, specifically, fluency, flexibility and originality;
2. to foster the notions that disciplines are interdependent; that all disciplines, in one form or another, study the mysteries of life and its meaning; and that cooperation is required in all complex human endeavors;
3. to provide faculty role models by which students might assess their own giftedness; and
4. to give students a psychologically safe environment in which to deal with their giftedness and its implications for them.

To facilitate achievement of these goals, two special program features were developed. One was a graduate-level seminar for teachers; the second was the assignment of children to small processing groups of 10 or 12, referred to as "families."

Program Structure

The graduate seminar was designed to provide instruction to the teachers in strategies and techniques for working with gifted children and to present the psychological and theoretical bases of the approaches. Twenty-seven teachers of the gifted, representing the school districts from which the children were drawn, attended the seminar. The four-week seminar met one week prior to the arrival of the children and then daily for three weeks in conjunction with the children's program.

On the basis of their expressed preferences children were clustered into four streams (biological sciences, social sciences, physical sciences and visual and performing arts). Within these streams they were grouped into 10-12 person groups, referred to as "families." During the first week of College For Kids, children were introduced to major research areas of the campus, and a number of the small groups often joined together for these experiences. The last two weeks, however, were spent in intensive workshops within interest areas and in the small unit of 10 or 12.

While children were on campus, each teacher participating in the seminar served as a teacher/facilitator of a "family" group. The teacher's role was to help the children integrate their experiences both cognitively and affectively. Time was built into the program at frequent intervals to allow for the development of group cohesion and for the direct teaching of cognitive skills needed in the program. Skills and techniques developed in the seminar were imparted to the children to assist them in their daily interactions with professors. Attention was given to both the cognitive and affective domains.

Cognitive Component

A major focus of the program was on the skills and processes of problem solving and in encouraging productive or creative thinking. Divergent production was based on the Guilford (1956) model and defined as that thinking which goes off in several directions, allows for variety in problem solving and "leads to a diversity of answers, where more than one answer may be acceptable" (Guilford, 1959, p. 381). According to the Guilford model, and as elaborated by Torrance (1966) and Getzels and Jackson (1962), the dimensions of divergent production are fluency, flexibility, elaborateness and originality.

Children were encouraged by both professors and teachers to explore strategies which strengthened divergent thinking. They worked especially with techniques such as brainstorming, visualization, attribute listing, nominal group processes and force field analysis. Convergent thinking patterns were also used as students identified and clarified problems and selected approaches to solving them.

Affective Component

Having children participate in an environment where they would have many of their cognitive and intellectual characteristics validated was viewed as a possible element in enhancing their self-esteem. It was also intended that the time spent in their "family" group would provide a daily opportunity for children to share their thoughts and feelings on being gifted, special concerns regarding school and parent expectations and feelings regarding relationships with their age-mates.

Selected Relevant Literature

Clark (1979) argues for the need to assure ourselves that programs on behalf of the gifted do not have unintended negative psycho-social consequences. Even the labeling of children as gifted, unless dealt with in an intensive and extensive fashion, may result in peer group and intrapersonal pressures which are detrimental to healthy self-esteem. Thus, as part of the College For Kids program evaluation, student's self-esteem was assessed on a pre- and posttest basis.

Historically, the gifted have had little problem in learning academic content. The effective teaching of underlying thinking skills and processes including creative or productive thinking is much more in doubt. Guilford

(1956), Torrance and Myers (1973) and Getzels and Jackson (1962) have all argued for having children be more fluent, flexible and original. Some researchers (Resse, Parnes, Treffinger, and Kaltsounis, 1976; Torrance and Myers, 1973) have reported finding programs effective in inducing these characteristics. Others (Freiheidt, 1969; Schuler, 1974) have failed to find evidence of the efficacy of such programs. A major survey (Mansfield, Busse, and Krepelka, 1978) of research investigating creative-thinking programs concluded that although studies seem to support the view that training can improve creative performance in general, it is not certain that they improve divergent-thinking abilities. To assess the effectiveness of the College For Kids experiences on the dimensions of fluency, flexibility and originality, a problem-solving index was administered to the students at the start of the program and again on the last day.

Methodology

Two instruments were used to assess affective and cognitive outcomes of the program: the Coopersmith Self-Esteem Inventory and the Problem-Solving Index. Instruments were administered to students on a pre-post basis.

Self-Esteem

Coopersmith's (1959, 1967) Self-Esteem Inventory was administered to 156 students at the beginning and again at the end of the three-week program. The Inventory was developed with fifth- and sixth-grade students and consists of 58 statements requiring a "like me" or "unlike me" response. Eight of the items constitute a lie scale; the remaining 50 items constitute a self-esteem scale. Items responded to in the keyed direction (indicating positive

self-esteem) were awarded one point, with a possible total score of 50. The instrument has face validity and reported reliability coefficients of .88 and .96 by Coopersmith (1967) on a test-retest basis. Johnson and Spatz (1973) report an internal consistency coefficient of .81.

Problem Solving

The Problem-Solving Index was administered to 30 students at the beginning and at the end of the three-week program. The Index was developed specifically for this project and is based on the theoretical work of Guilford (1956) who suggested in his Structure of Intellect model that the components of divergent thinking encompasses fluency, flexibility and originality. These ideas were utilized and elaborated by Torrance (1966) and by Getzels and Jackson (1962) in developing instruments to measure creativity or divergent-thinking of gifted and creative students.

The Index has two forms (A and B), each with five problems to be solved. Both forms use the same five problem types in exactly the same order:

1. Social Problems (Societal)
    a. Garbage collection
    b. Vandalism prevention
2. Planning Problems
    a. Create a holiday
    b. Create a game
3. Academic Problems
    a. Word meaning (unknown)
    b. Word meaning (unknown)

4. Social Problems (Personal)
   a. Broken window
   b. Broken engagement
5. Mechanical Problems
   a. String tying
   b. Ball recovery

Each of the problems was to be solved in five minutes with as many short answers as possible. Students were encouraged to be imaginative. A common example modeled the desired types of responses and the generation of ideas.

For each item on the Index, three separate scores are computed from a student's responses to the item: (1) a fluency score, which is the raw number of distinct responses to the item; (2) a flexibility score, which is the number of different categories or themes into which the responses fall; and (3) an originality score, which is based on the relative infrequency of a response (infrequent responses receiving higher scores). Total scores for fluency, flexibility and originality are then obtained by summing across items.

The index was piloted in a small midwestern school district with children in the same grades and of the same ages as the target populations; and inter-rater agreements were determined across 10 papers with the following results: (1) fluency: 100%; (2) flexibility: 95%; (3) originality: 96%.

The final scoring in the study was done by a trained rater familiar with the scoring systems of related instruments (Torrance, 1963; Getzels and Jackson, 1962; Wallach and Kogan, 1964). Scoring was done blind, that is the rater did not know whether the paper being scored was a pre- or posttest. Quality control was maintained by re-scoring every 10th paper.

Results

Table 1 presents pretest and posttest means, standard deviations and sample sizes for self-esteem, fluency, flexibility and originality.

Table 1

Means and Standard Deviations

on Pretest and Posttest Measures

Measure		Pretest	Posttest
Self-Esteem	M	39.03	39.34
(N = 156)	SD	8.08	8.38
Fluency	M	16.77	22.27
(N = 30)	SD	8.06	7.89
Flexibility	M	14.17	17.17
(N = 30)	SD	4.21	5.86
Originality	M	28.83	38.23
(N = 30)	SD	14.17	11.74

Using a one-tail t-test for dependent samples to compare pretest and posttest means in Table 1, the following results were found:

1. Self-esteem - ND no significant difference - ($p > .05$)
2. Fluency - significant improvement - ($p < .05$)
3. Flexibility - significant improvement - ($p < .05$)
4. Originality - significant improvement - ($p < .05$)

Discussion and Conclusion

Self-Esteem

Perusal of the means for self-esteem in Table 1 suggests virtually no movement in group means between pre- and posttesting. The fact that no measurable improvement in self-esteem occurred was not totaly surprising given the short duration and dual focus (cognitive as well as affective) of the program. On the other hand, the lack of any decline in self-esteem at least suggests that the program had no pejorative effects.

Fluency, Flexibility and Originality

The mean increase in fluency, flexibility and originality in Table 1 from pretest to posttest was, in each case, statistically significant at the .05 level. The convergence of the results suggests that the cognitive component of the program appeared to produce positive effects.

The findings reported in this study offer encouragement for those concerned with the efficacy of short-term programming for gifted children. As gifted educators (Clark, 1979; Feldhusen, 1981) have noted, enrichment programs are currently the most frequent form of programming for the gifted. Still, the absence of sturdy evidence on the effectiveness of these programs is somewhat alarming; and it is essential to determine which kinds of enrichment are particularly beneficial to the gifted. This study suggests that one model, a particular kind of College For Kids, has some potential.

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